

Genus	Vol. 17(1): 95-105	Wrocław, 30 III 2006
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Description of two new species of *Anthrenus* O. F. MÜLLER, 1764 from southern Africa (Coleoptera: Dermestidae: Megatominae: Anthreninii)

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ABSTRACT. *Anthrenus stelma* from Namibia and *A. tarnawskii* from Namibia and Zimbabwe are described.

Key words: entomology, taxonomy, morphology, Coleoptera, Dermestidae, Megatominae, *Anthrenus*, new species, South Africa, Namibia, Zimbabwe.

INTRODUCTION

Dermestidae is a relatively small (approximately 1200 species) beetle family with worldwide distribution (HÁVA 2003). One of the most interesting and important economically representatives of the family is the genus *Anthrenus* O. F. MÜLLER, 1764, which currently includes about 160 species, numerous of them described recently (HÁVA 2000, 2001a, 2001b, 2001c, 2002a, 2002b, 2002c, 2003a, 2003b, 2003c, 2003d, 2003e, 2003f, 2003g, 2003h, 2003i, 2004a, 2004b, 2004c, 2004d; HÁVA & HERRMANN 2003; HÁVA & TEZCAN 2004; MROCZKOWSKI 1980; ZHANTIEV 2004a, 2004b). Wide and elongated scales of different colors occurring on the dorsum and venter are the typical feature of this genus. On the elytra they create pattern which is proved to be a diagnostic feature useful for species identification (BEAL 1998; HÁVA 2004g, MROCZKOWSKI 1975; ZHANTIEV 1976, 2000).

African fauna is moderate, with 27 recorded species (HÁVA 2003b, 2005): *Anthrenus obscurus* THUNBERG, 1815 (South Africa), *A. capensis* GUÉRIN-MÉNEVILLE, 1838a (South Africa), *A. aterrimus* (GERSTAECKER, 1871) (Kenya, Tanzania), *A. albstictus* REITTER, 1881 (South Africa), *A. undatus* REITTER, 1881a (South Africa), *A. afer* PÉRINGUEY, 1886 (South Africa), *A. longus* ARROW, 1915b (Tanganyika, Socotra), *A. megalops* ARROW, 1915b (Ethiopia), *A. seminulum* ARROW, 1915b (Kenya, South Africa), *A. senegalensis* PIC, 1927e (Senegal), *A. oculatus* ARROW, 1937 (Kenya), *A. luteovestitus* (PIC, 1937a) (Kenya), *A. wittmeri* MROCZKOWSKI, 1980 (Eritrea), *A. basilewskyi* KALÍK, 1965 (Kenya, Malawi, Tanzania, Zambia), *A. namibicus* HÁVA, 2000 (Namibia), *A. poggii* HÁVA, 2002 (Somalia), *A. bartolozzi* HÁVA, 2003 (Kenya), *A. endroedyi* HÁVA, 2003 (Angola, Ghana), *A. kantneri* HÁVA, 2003 (Zimbabwe, Malawi), *A. merkli* HÁVA, 2003 (Tanzania), *A. paulyi* HÁVA, 2003 (Burkina Faso), *A. bobo* HÁVA, 2003 (Burkina Faso), *A. fernandezi* HÁVA, 2003 (Burkina Faso), *A. kenyanensis* HÁVA, 2004 (Kenya), *A. ethiopicus* HÁVA, 2004 (Ethiopia), *A. splendidus* HÁVA, 2004 (South Africa), and *A. natalensis* HÁVA, 2004 (South Africa, Natal, Cape).

In material studied recently we have found specimens representing two new species and their descriptions are given below.

MESUREMENTS AND METHODS

Explanation of abbreviations:

- TM - Transvaal Museum, Pretoria, South Africa.
- BL - body length (measured from anterior margin of head to the apex of elytra).
- BW - body width (measured between two anterolateral humeral calli).
- HW - head width (measured as a distance between lateral margins of head on eyes level).
- PL - pronotum length (measured from the top of the anterior margin to base of scutellum).
- PW - pronotum width (measured between two posterior angles of pronotum).
- SL - sternites length (measured from anterior margin to the apex of posterior margin).
- SW - sternites width (measured between two lateral margins in the anterior part of sternites).
- AFL - length of antennal fossa (measured along the antennal fossa).
- LMP - length of lateral margin of pronotum (measured as a distance between inferior part of pronotum and exterior angle).

All measurements are given in millimeters. The morphological structures (antenna, wing, leg, genitalia, galea and lacinia, pygidium, eighth sternite, ninth abdominal sternite, ninth abdominal tergite) were observed under phase contrast microscope Nikon Eclipse E 600 with a drawing attachment in transparenting

light in glycerin. All morphological structures were put into plastic micro vials with glycerin under proper specimens. Photos were taken with the camera Nikon Coolpix 4500.

All type specimens were labelled with red, printed labels bearing the text as follows: "HOLOTYPE [or ALLOTYP/PARATYPE, respectively] genus_ name species_ name det. HÁVA & KADEJ, 2005".

***Anthrenus (Nathrenus) stelma* n. sp.**

(Figs 1-16)

NAME DERIVATION

Dedicated to our friend and specialist of Geometridae - Radosław STELMASZCZYK (Poland, University of Wrocław); "*stelma*" it is his friendly nickname.

DIAGNOSIS

Anthrenus stelma n. sp. can be easily distinguished from allied species in different dorsal pattern on pronotum and elytra. *Anthrenus stelma* n. sp. is confusingly similar to *A. splendidus* HÁVA, 2004 (South Africa), but differs in number of antennal segments (nine in *A. splendidus* and eleven in *A. stelma*).

DESCRIPTION

Body strongly convex, elongate, covered by scales (BL: 2.4-3.35; BW: 1.25-1.75) (Figs 12, 13). Female bigger and wider than male.

Head (HW: 0.5-0.55) with big convex eyes. Frons covered with grey yellowish and brown scales (Fig. 11).

Antenna of both sex light brown, eleven-segmented, antennal club three-segmented (Figs 1, 2), covered densely with light-brown pubescence. Eleventh segment oval, with one placoid sensilla, covered densely with light-brown pubescence.

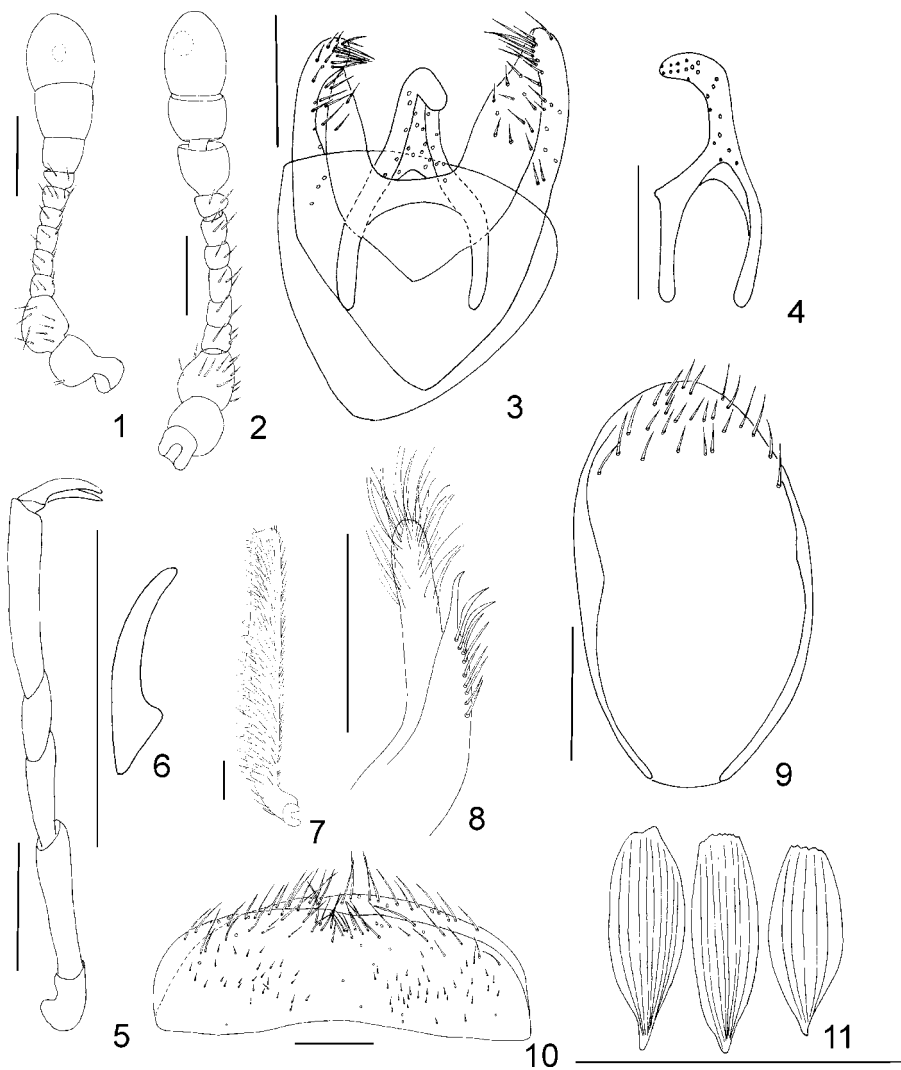
Antenna occupies whole cavity of antennal fossa. Antennal fossa completely open along lateral margin of the pronotum (AFL: 0.2-0.3, LMP: 0.45-0.6).

Dorsal and ventral surface of integument dark brown, slightly punctate, covered with grey, dark brown and yellowish to almost red scales (Figs 12, 13). Pronotum (PL: 0.5-1.05; PW: 1.0-1.4) in male: covered with dark brown scales in the central part, grey scales on the angles and lateral parts, in female: covered with dark brown scales only on the anterior lateral margin, central part with light brown scales, lateral margins and the angles of the pronotum with grey scales.

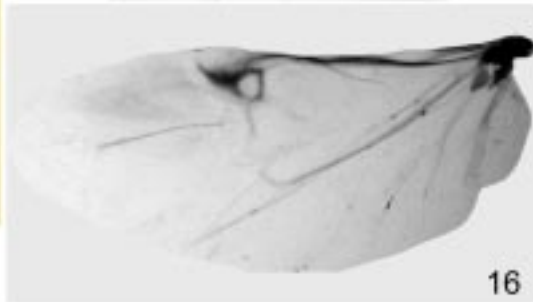
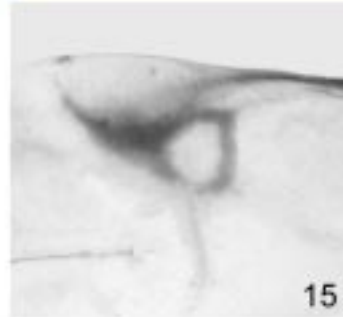
Elytra covered with grey, dark brown and yellowish to almost red scales, forming transverse, nearly complete bands. The anterior part of the elytra covered with dark brown scales. Inferiorly yellowish scales form thin and irregular transverse band. Middle part of elytra covered with three transversal bands of grey, yellowish, and mixture of grey and yellowish scales. The terminal parts covered

with grey and dark brown scales forming two distinctive spots, surrounded by yellowish scales.

Ventral surface with white scales except for abdominal sternites, which are covered with mixture of grey and brown scales, especially anterolateral parts of the sternites I-V (SL: 1.35-1.9; SW: 1.25-3.4) (Fig. 14).



1-11. *Anthrenus stelma* n. sp.: 1 - antenna of male, 2 - antenna of female, 3 - male genitalia (dorsal view), 4 - aedeagus (lateral view), 5 - right hind leg (lateral view), 6 - tarsal claw, 7 - left mid tibia (lateral view), 8 - galea with lacinia, 9 - ninth abdominal sternit (male), 10 - sixth abdominal tergite and sternite, 11 - scales



12-16. *Anthrenus stelma* n. sp.: 12 - male, 13 - female; 14 - sternites; 15, 16 - wing

Legs brown, covered with grey scales on dorsal surface. Tarsus with two tarsal-claws slightly curved (Figs 5, 6). On the lateral exterior margin of the tibia of mid and hind legs in both sexes occur numerous spots of scales. Male genitalia as in figure 3. Parameres broad, covered with numerous short setae. Aedeagus wide posteriorly, slightly curved with the apex straight (Fig. 3, 4). Abdominal sternite IX oval, with numerous short setae on the top (Fig. 9). Abdominal tergite VI and sternite VI light-brown, with two types of setae: longer on the posterior margin and shorter centrally in the anterior part of tergite (Fig. 10). Galea and lacinia as in figure 8.

Wing as in Figs 15-16.

TYPE MATERIAL

Holotype male: S. W. Afr., Namib Ganab-Hotsas 23.00S – 15.25E; 1.11.1974, E-Y: 442 groundtrap: 17 days leg ENDRÖDY-YOUNGA; ground traps with meat bait; 2005; allotype, the same data as holotype, besides other information: ground traps with fish bait; paratypes - 36 exx.: 15 exx. the same data as in holotype, 21 exx. the same data as in allotype (Holotype, allotype and 34 paratypes deposited in TM, 2 paratypes in coll. J. HÁVA).

IMMATURE STAGES, BIOLOGY AND ECOLOGY

Unknown.

DISTRIBUTION

South West Africa: Namibia.

Anthrenus (Anthrenus s.str.) tarnawskii n. sp.

(Figs 17-30)

NAME DERIVATION

The species name is dedicated to the eminent Polish specialist of Elateridae - Dariusz TARNAWSKI (University of Wrocław).

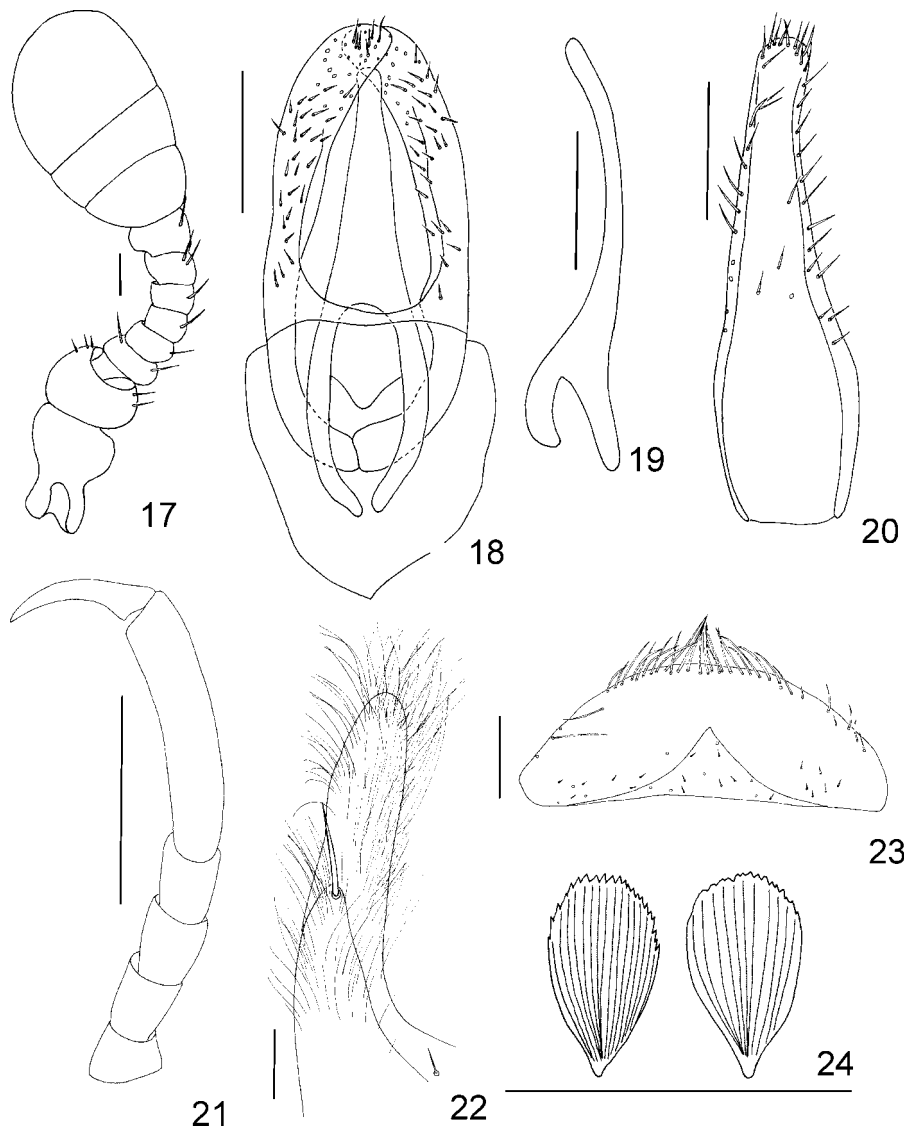
DIAGNOSIS

Anthrenus tarnawskii n. sp. can be easily distinguished from the other species by its characteristic dorsal pattern. *Anthrenus tarnawskii* n. sp. is confusingly similar to *A. seminulum* ARROW, 1915b from Kenya and South Africa) but differs in arrangement of dorsal scales. *A. tarnawskii* possesses patches of dark brown scales on the posterior part of pronotum and anterior area of elytra while in *A. seminulum* lacks such a patches.

DESCRIPTION OF MALE

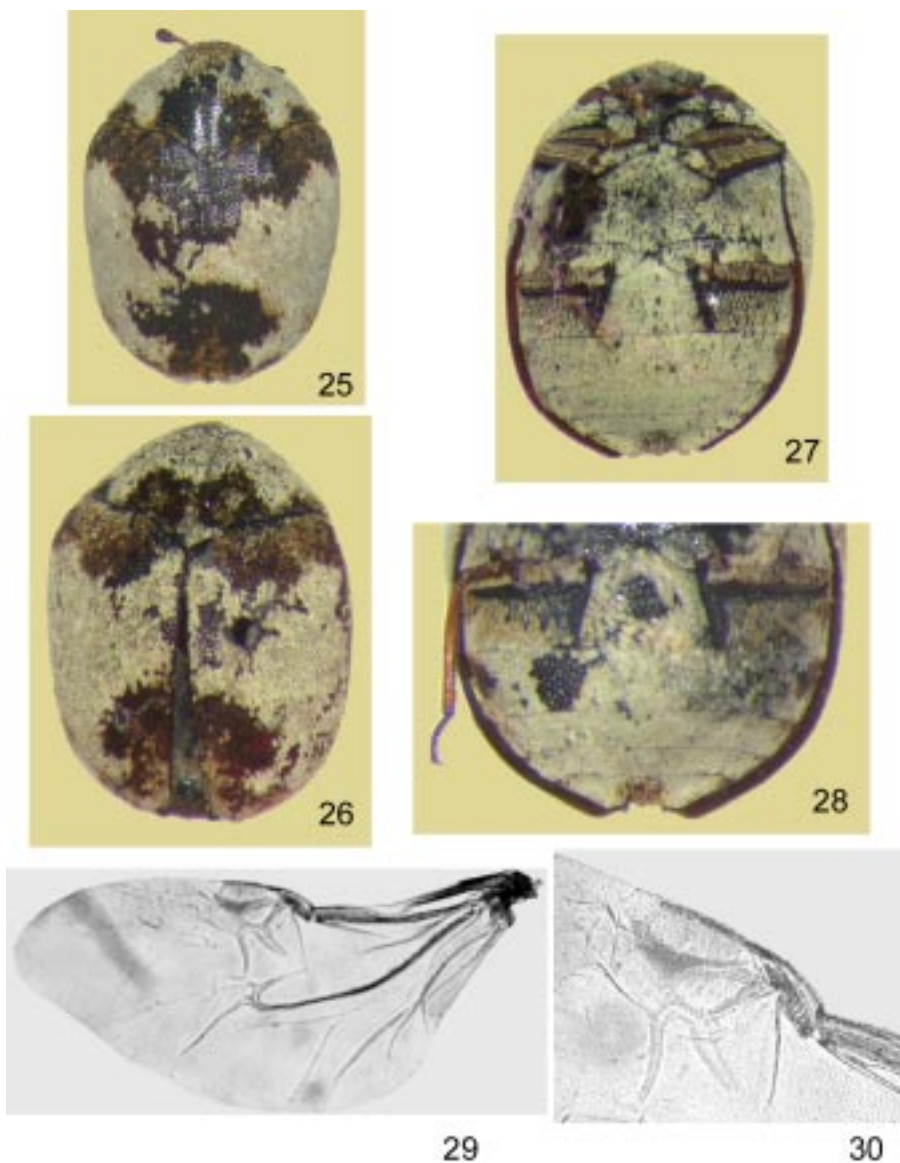
Body strongly convex, oval, almost round, dorsum and venter covered with scales (BL: 2.2; BW: 1.55) (Figs 25-27).

Head (HW: 0.55) with big, convex eyes. Frons with pseudoocelli, covered with white and brown scales. Antenna of brown color, 11-segmented (Fig. 17), antennal club three-segmented, covered densely with light-brown pubescence. Antenna occupies whole cavity of antennal fossa. Antennal fossa completely open (AFL: 0.2) along length (LMP: 0.55) of lateral margin of the pronotum.



17-24. *Anthrenus tarnawskii* n. sp.: 17 - male antenna, 18- male genitalia (dorsal view), 19 - aedeagus (lateral view), 20 - ninth abdominal sternite (male), 21- right hind leg (lateral view), 22 - galea and lacinia, 23 - sixth abdominal tergite, 24 - scales

Dorsal and ventral surface of integument black-brown, slightly punctate, covered with white, light brown or dark brown scales (Figs 24-27). Pronotum (PL: 0.75; PW: 1.35) covered with white scales on the anterior margin, central region of this part sometimes with light brown scales. Angles and posterior margin of



25-30. *Anthrenus tarnawskii* n. sp.: 25, 26 - habitus: 25 - male holotype, 26 - male paratype; 27 - ventral side of male, 28 - sternites, 29, 30 - wing

pronotum covered with light brown and dark brown scales. The anterior and posterior part, and apex of elytra covered with white, light brown or dark brown scales creating distinct spots of the same color or composing patches containing all of mentioned above colors. Central and lateral parts of elytra mostly with white scales. The characteristic feature in the setal pattern is big, mushroom-like spot at the apical part of elytra, composed of dark brown scales surrounded by light brown scales.

Ventral surface with white scales except for anterolateral parts of the abdominal sternites (SL: 1.0; SW: 1.5) covered with brown scales only. The same scales create brown spot in the middle apical part of the last, fifth sternit (Fig. 28).

Legs brown. Only femur covered with brown coloured scales on dorsal surface.

Tarsus with two tarsal claws slightly curved (Figs 21). Male genitalia as in figures 18-19. Parameres broad with curved apex, covered with numerous short setae (Fig. 18). Aedeagus wide, slightly curved but with stright apex (Fig. 19). Abdominal sternite IX spatulate with a few long setae on the top (Fig. 20). Abdominal tergite IX as in figure 20. Abdominal tergite VI light-brown, with two types of setae: longer at the posterior margin and shorter centrally in the anterior part of tergite (Fig. 23).

Maxilla with galea and lacinia (Fig. 22).

Wing as in Figs 29-30.

Female unknown.

TYPE MATERIAL

Holotype, male: S. W. Afr., Namib Us Pass, 10 km ark 23.03S – 15.40E; 2.3.1975, E-Y: 714 groundtrap: 90 day leg ENDRÖDY-YOUNGA; det. Jiří HÁVA & Marcin KADEJ, 2005; paratype, male: “[Zimbabwe]” S. Rhodesia, Nov-Dec. 1930, R.H.R. STEVENSON (all deposited in TM).

DISTRIBUTION

Southern Africa: Namibia and Zimbabwe.

IMMATURE STAGES, BIOLOGY AND ECOLOGY

Unknown.

ACKNOWLEDGEMENTS

We would like to thank B. TOMASIEWICZ (Zoological Institute, Wrocław University) for her help with the manuscript translation; L. BOROWIEC and R. STELMASZCZYK (Zoological Institute, Wrocław University) provided helpful comments to improve this manuscript.

REFERENCES

- ARROW, G. J., 1915. Notes on the Coleopterous family Dermestidae, and description of some new forms in the British Museum, Ann. and Mag. Natur. Hist. London, **15**: 425-451.

- BEAL, R. S., 1998. Taxonomy and biology of Nearctic species of *Anthrenus* (Coleoptera: Dermestidae). Trans. Amer. Entomol. Soc., **124** (3, 4): 271-332.
- HÁVA, J., 2000. New interesting Dermestidae (Coleoptera) from the world with descriptions of ten new species. Veröffentl. Naturkundemus. Erfurt, **19**: 161-171.
- , 2001a. New and little known species of the genus *Anthrenus* O. F. MÜLLER, 1764 (Coleoptera: Dermestidae). Entomol. Zeitschr., Stuttgart, **111**: 58-61.
- , 2001b. *Anthrenus (Anthrenus) mesopotamicus* sp. n. (Coleoptera: Dermestidae) from Iraq. Folia Heyrovskyana, **9**: 65-66.
- , 2001c. *Anthrenus (Nathrenus) jakli* sp. n. (Coleoptera: Dermestidae) from the Sultanate of Oman, and distributional notes on some other *Anthrenus* species. Acta Soc. Zool. Bohemiae, **65**: 1-3.
- , 2002a. Five new species of Dermestidae (Coleoptera), with notes on synonymy and distribution of the family. Acta Mus. Moraviae, Scien. Boil., Brno, **87**: 29-40.
- , 2002b. A new species of the genus *Anthrenus* subgenus: *Ranthenus* (Coleoptera: Dermestidae) from Turkey. Jour. Nat. Mus., Nat. Hist. Series, **171**: 45-46.
- , 2002c. *Anthrenus (Anthrenodes) poggii* n. sp. and notes about some interesting Dermestidae (Coleoptera). Doriana, **7**, n. **331**: 1-6.
- , 2003a. New species of Dermestidae found in tropical Africa. Frustula entomol., (2001), **24**: 75-79.
- , 2003b. World Catalogue of the Dermestidae (Coleoptera). Studie a zprávy Oblastního Muzea Praha-východ v Brandýse nad Labem a Staré Boleslavi, Suppl. 1, 196 pp.
- , 2003c. Notes on Dermestidae (Coleoptera) with description of eight new species. Ann. Hist.-Nat. Mus. Nat. Hung., **95**: 19-35.
- , 2003d. New and interesting Dermestidae from Burkina Faso (Coleoptera). Lambillionea, **103**: 500-504.
- , 2003e. Faunistic records from the Czech Republic – 128. Coleoptera: Dermestidae. Klapalekiana, **39**: 128.
- , 2003f. New and interesting Dermestidae (Insecta: Coleoptera) from Nepal - III. pp. 251-253. In: HARTMANN M. & BAUMBACH H. (hrsg.): Biodiversity and Natural Heritage in the Himalaya. Verein der Freunde und Förderer des Naturkundemuseums Erfurt e. V., 408 pp., 270 b/w fig., XVI coloured plates.
- , 2003g. *Anthrenus (Nathrenus) zahradniki* sp. n. (Coleoptera: Dermestidae) from Turkey. Klapalekiana, **39**: 225-227.
- , 2004a. Nomenclatorial notes on Dermestidae and descriptions of new species (Coleoptera). Anima.X, **7**: 1-11.
- , 2004b. Two new species of the genus *Anthrenus* (Coleoptera: Dermestidae) from South-eastern Asia. Journal of the National Museum, Natural History Series, **173**: 157-159.
- , 2004c. New interesting Dermestidae (Coleoptera) from China. Entomol. Zeitschr., Stuttgart **114**: 225-232.
- , 2004d. Notes on Dermestidae (Coleoptera) with new synonymes and description of three new species. Ann. Hist.-Nat. Mus. Nat. Hung., **96**: 81-95.
- , 2004e. *Anthrenus (Florilinus) sveci* n. sp. from Greece. Doriana, **7**, n. **344**: 1-5.
- , 2004f. Descriptions of three new African species of *Anthrenus* O. F. MÜLLER and notes about some other interesting Dermestidae. Ann. Mus. Civ. Stor. Nat. Genova, **96**: 203-213.
- , 2004g. World keys to the genera and subgenera of Dermestidae (Coleoptera), with descriptions, nomenclature and distributional records. Acta Mus. Nat. Pragae, Series B, Natural History, **60**: 149-164.
- , 2005. World catalogue: Internet version: <http://www.dermestidae.wz.cz>
- HÁVA, J., & HERRMANN, A., 2003. *Anthrenus (Nathrenus) preissi* sp. nov. (Coleoptera: Dermestidae) from Sumatra. Entomol. Zeitschr., **113**(7): 217-218.
- HÁVA, J., & TEZCAN, S., 2004. A new species of *Anthrenus* O. F. MUELLER, 1764 (Coleoptera: Dermestidae) from Turkey. Baltic Journ. Coleopterol., **4**(1): 53-54.
- MROCZKOWSKI, M., 1975. Dermestidae, Skórnikowate (Insecta: Coleoptera). Fauna Polski, t. 4. Warszawa, 162 pp.

- , 1980. Insects of Saudi Arabia. Part 2, Description of three new species, Fauna of Saudi Arabia, **2**: 124-126.
- MÜLLER, O. F., 1764. Fauna Insectorum Friedrichsdalina, sive methodica descriptio insectorum agra Friedrichsdalina, cum characteribus genericis et specificis, nominibus trivialibus, locis natalibus, icinibus allegatis, novisque pluribus speciebus additis. Hafniae et Lipsiae, XXIV + 96 pp.
- ZHANTIEV, R. D., 1976. The Hide Beetles of the Fauna of U.S.S.R. Izd. Moskovsk. Univ.: 180 pp. (in Russian).
- , 2000. Classification and phylogeny of Dermestids (Coleoptera, Dermestidae), Zool. Zh., **79**(3): 297-311.
- , 2004a. New species of dermestid beetles of the genus *Anthrenus* (Coleoptera, Dermestidae) from Central Asia. Zool. Zh., **83**(5): 626-630.
- , 2004b. New species of dermestid beetles of the genus *Anthrenus* (Coleoptera, Dermestidae) from Central Asia and Mongolia. Zool. Zh., **83**(6): 757-760.